

SVENSSON ET AL.
Appl. No. 10/580,611
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AMENDMENTS TO THE TITLE:

Please amend the title as follows:

~~Seanable~~ Scannable sparse antenna array.

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 3, line 29, as follows:

~~The present invention discloses a~~ A sparse array antenna is disclosed and comprises ~~comprising~~
series-fed antenna array columns (wave-guides or other types of transmission lines forming columns
of radiator elements) tuned to a respective transmit and receive frequency. Transmitting and
receiving radiation elements are formed with an equal distance between each transmitting
radiator element and each receiving radiator element being centred on a symmetry line to form a
symmetric interleaved transmit/receive array. The receiving array columns will operate as
parasitic elements in a transmit mode and the transmitting array columns will operating as
parasitic elements in a receive mode and thereby reduce grating lobes entering visual space
particularly when scanning the main radiation lobe off from a boresight direction. Generally the
distances between each array column in the transmitting array and each array column in the
receiving array are increased to be of the order of one wavelength (λ) for forming a sparse array.

Please delete the paragraph beginning at page 4, line 14, which starts with:

The present invention, together...

Please amend the heading beginning at page 5, line 28, as follows:

~~DETAILED DESCRIPTION OF THE INVENTION~~

Please amend the paragraph beginning at page 5, line 29, as follows:

~~For describing the present inventive concept~~ purposes of illustration only, a 2 (Rx) + 2 (Tx) wave-
guide test model will be described. The goal is then to demonstrate the performance of an

interleaved antenna and the correspondence to simulated results. The design of this test model will be described.

Please amend the paragraph beginning at page 8, line 5, as follows:

The corresponding cases when the Tx wave-guides are fed with equal amplitude and phase are shown in Figure 9 and Figure 10.

Please amend the paragraph beginning at page 8, line 17, as follows:

In a basic configuration example of ~~according to the inventive configuration for obtaining a sparse array, the inactive wave-guides, i.e., receive wave-guides in a transmit operation and vice versa, could be given a favourable-favorable phase such that the sidelobe level will be decreased. When the array is scanned to a radiation angle off boresight an improvement will also be obtained by using such a technique and in both cases the array will become sparse compared to the standard case, thus a more simple and cheaper antenna having fewer active modules in an Active Electronically Scanned Array (AESA) achieved.~~

Please amend the paragraph beginning at page 8, line 26, as follows:

In a more simple but still example ~~version, of the inventive configuration~~ inactive elements can, for that particular moment, just serve as dummy elements interleaved between the active element by then being terminated in a suitable way. For instance, a suitable shorting device or a matched load positioned at the proper position could then be used.